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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,653	08/08/2001	Kee Yean Ng	70980061-2	5527

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EXAMINER

LEURIG, SHARLENE L

ART UNIT PAPER NUMBER

2879

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/924,653	NG, KEE YEAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sharlene Leurig	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the particles being evenly settled on and around the light emitter and the evenly disperse, uniform thickness particle coating must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites a coating having and adhesive material and particles of another substance wherein the coating is dispersed in such a way as to result "in an evenly dispersed, uniform thickness particle coating over the light emitter, the projecting platform and the trough". There is no support in the specification or the figures for an evenly dispersed, uniform thickness particle coating over the projecting platform or the trough.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites a "uniform thickness particle coating over the light emitter, the projecting platform and the trough". It is unclear whether the thickness is measured vertically from the base of the cavity or at normal to the tangential lines of

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the surfaces of the cavity, the trough, the platform and the LED contacting the bottom of the coating.

5. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites the platform allowing the particles within the coating to settle to a lower position towards the periphery of the base of the cavity before the coating is cured. It is unclear what the relative term "lower" is in respect to.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 6-7, 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (3,555,335) (of record) in view of Lowery (5,959,316).

Regarding claim 1, Johnson discloses a light-emitting device comprising a base substrate with a cavity and a trough provided by reflector cup base (33), inclined wall (34), and the sides of raised platform (31), to form a reflective cup (Figure 5, striped element), a projecting platform (31) at the base of the cavity, and a light emitter (30) mounted on the projecting platform, the light emitter being smaller in outline than the projecting platform, which expands outward to a greater width than the light emitter.

Though Johnson discloses a color filter incorporated into the casting resin of the device to achieve a desired optical effect, it lacks explicit disclosure of a coating material applied over the light emitter.

It is well known in the art to provide a coating of dye or phosphor over a light emitter to achieve a desired optical effect.

Regarding claim 1, Lowery teaches a coating having a hardened adhesive material (Figure 4, element 66) and particles of another substance, where the particles are evenly settled on and around the light emitter within the cavity, where evenly is interpreted as meaning uniformly dispersed. Lowery further teaches the particle coating over the light emitter to be uniform in thickness and uniformly dispersed (column 3, lines 30-32). Lowery teaches such a structure as providing a uniform coloration (column 3, lines 8-10).

The examiner notes that the limitation of the coating being a viscous slurry when applied over the light emitter, hardening when cured after being applied, and the light emitter, the platform and the trough allowing the particles to be evenly settled on and around the light emitter before the coating is cured is directed to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter of Johnson with a coating layer containing adhesive and particles where the particles are coated evenly on and around the light emitter in an evenly dispersed, uniform thickness of particle coating, to modify the light emitted to achieve a uniform lighting effect, as taught by Lowery.

Regarding claim 2, Johnson discloses a projecting platform formed as an integral part of the base substrate (see Figure 5, element 31 and surrounding striped element).

Regarding claim 6, Johnson discloses a reflective cup (Figure 5, striped element) providing reflection of light emitted by the light emitter (column 3, lines 39-44).

Regarding claim 7, Johnson discloses a cavity having a sloping wall (33, 34 or 35) of a frusto-conical form surrounding the projecting platform, where the sloping wall (column 3, lines 39-44) and the platform (column 3, lines 65-68) are coated with a reflective material. The sloping wall is interpreted as being frusto-conical because each section of the wall (34, 35) is formed as a shape of section of an inverted cone. Since the structure of Figure 5 is integral the platform must be considered part of the reflector.

Regarding claim 9, Johnson lacks disclosure of a coating covering the light emitter, as discussed above.

Lowery teaches a coating containing particles wherein the thickness of the coating containing the particles is constant over the entire surface and sides of the light emitter (Figure 4). periphery of the base of the cavity, thereby forming a coating containing the settled particle, the coating having of a constant thickness over a light emitter (Figure 106, element FL).

The examiner notes that the limitation of the platform allowing the particles within the coating to settle to a lower position towards the periphery of the base of the cavity before the coating is cured is directed to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Therefore regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter disposed on the platform of Johnson to have a coating formed uniformly over the emitter with the particles dispersed in the coating settling at a lower position toward the base before curing, as taught by Komoto, in order to achieve a uniform light effect. In such an arrangement the platform would allow the coating material to remain constant over the entire surface and sides of the emitter because it would provide the upward force which is provided by the cup in Komoto, which has a coating material of a constant thickness on the emitter but no platform.

Regarding claim 10, the particles taught by Lowery are of fluorescent substance to absorb light of one wavelength and re-emit light of a different wavelength.

Regarding claim 11, the fluorescent substance taught by Lowery is phosphor (column 2, line 19) and the adhesive material is epoxy (column 2, line 19).

Regarding claim 13, the light emitter disclosed by Johnson is an LED (column 1, lines 3-4).



5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (3,555,335) (of record) in view of Lowery (5,959,316), as applied to claims 1, 2, 6-7, 9-11 and 13 above, and further in view of Merg (5,019,746) (of record).

Johnson discloses a device with all the limitations discussed above, including a reflective cup, but lacks disclosure of a coating applied over the light-emitting device or of the reflective material coated onto the cup.

Lowery teaches a fluorescent and adhesive coating applied over the light-emitter, but also lacks disclosure of a reflective material.

Merg teaches a cup for supporting a light emitter having a silver coating, the silver increasing the reflectance of the cup (column 3, lines 34-35).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter of Johnson with a fluorescent and adhesive coating layer formed evenly and in uniform thickness over the light emitter, as taught by Lowery, in order to achieve a uniform lighting effect, and to further modify the reflective cup of Johnson with a silver coating to provide a highly-reflective layer, as taught by Merg.

6. Claims 1, 3-6 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-235787 (of record) in view of Lowery (5,959,316).

Regarding claim 1, JP 62-235787 discloses a light-emitting device comprising a base substrate (Figure 1, element 24) with a cavity and a trough provided by reflector

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cup base, inclined wall (34), and the sides of raised platform (36) to form a reflective cup, a projecting platform (36) at the base of the cavity, and a light emitter (25) mounted on the projecting platform, the light emitter being smaller in outline than the projecting platform.

Regarding claim 1, JP 62-235787 lacks disclosure of a coating material applied over the light emitter.

It is well known in the art to provide a coating of dye or phosphor over a light emitter to achieve a desired optical effect.

Regarding claim 1, Lowery teaches a coating having a hardened adhesive material (Figure 4, element 66) and particles of another substance, where the particles are evenly settled on and around the light emitter within the cavity, where evenly is interpreted as meaning uniformly dispersed. Lowery further teaches the particle coating over the light emitter to be uniform in thickness and uniformly dispersed (column 3, lines 30-32). Lowery teaches such a structure as providing a uniform coloration (column 3, lines 8-10).

The examiner notes that the limitation of the coating being a viscous slurry when applied over the light emitter, hardening when cured after being applied, and the light emitter, the platform and the trough allowing the particles to be evenly settled on and around the light emitter before the coating is cured is directed to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed

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product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter of JP 62-235787 with a coating layer containing adhesive and particles where the particles are coated evenly on and around the light emitter in an evenly dispersed, uniform thickness of particle coating, to modify the light emitted to achieve a uniform lighting effect, as taught by Lowery.

Regarding claim 3, the projecting platform disclosed in JP 62-235787 is a discrete component, attachable to the base substrate (Abstract Constitution lines 1-5).

Regarding claim 4, the projecting platform and the base substrate disclosed in JP 62-235787 are made of different materials (Abstract Constitution lines 1-5).

Regarding claim 5, the base substrate disclosed in JP 62-235787 comprises a metal (Abstract Constitution line 1) and the projecting platform comprises a material able to efficiently dissipate heat generated by the light emitter (Abstract Purpose lines 3-6).

Regarding claim 6, JP 62-235787 discloses a reflective cup (34) to provide reflection of light emitted by the light emitter (Abstract Constitution lines 11-13).

Regarding claim 9, JP 62-235787 lacks disclosure of a coating covering the light emitter, as discussed above.

Lowery teaches a coating containing particles wherein the thickness of the coating containing the particles is constant over the entire surface and sides of the light emitter (Figure 4). periphery of the base of the cavity, thereby forming a coating

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containing the settled particle, the coating having of a constant thickness over a light emitter (Figure 106, element FL).

The examiner notes that the limitation of the platform allowing the particles within the coating to settle to a lower position towards the periphery of the base of the cavity before the coating is cured is directed to a process of manufacturing, which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Therefore regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter disposed on the platform of Johnson to have a coating formed uniformly over the emitter with the particles dispersed in the coating settling at a lower position toward the base before curing, as taught by Komoto, in order to achieve a uniform light effect. In such an arrangement the platform would allow the coating material to remain constant over the entire surface and sides of the emitter because it would provide the upward force which is provided by the cup in Komoto, which has a coating material of a constant thickness on the emitter but no platform.

Regarding claim 10, the particles taught by Lowery are of fluorescent substance to absorb light of one wavelength and re-emit light of a different wavelength.

Regarding claim 11, the fluorescent substance taught by Lowery is phosphor (column 2, line 19) and the adhesive material is epoxy (column 2, line 19).

Regarding claim 12, a lens (32) disclosed in JP 62-235787 focuses the emitted light and is formed above the light emitter. The coating material as taught by Lowery is formed directly over the light emitter and therefore the lens disclosed in JP 62-235787 would be positioned over the coating material.

Regarding claim 13, the light emitter disclosed in JP 62-235787 is an LED (Abstract Constitution line 12).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-235787 (of record) in view of Lowery (5,959,316), as applied to claims 1, 3-6 and 9-13 above, and further in view of Merg (5,019,746) (of record).

JP 62-235787 discloses a device with all the limitations discussed above, including a reflective cup (Abstract Constitution lines 11-13), but lacks disclosure of a coating applied over the light-emitting device or of the reflective material coated onto the cup.

Lowery teaches a fluorescent and adhesive coating applied over the light-emitter, but also lacks disclosure of a reflective material.

Merg teaches a cup for supporting a light emitter having a silver coating, the silver increasing the reflectance of the cup (column 3, lines 34-35).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitter of JP 62-235787 with a fluorescent and adhesive coating layer formed evenly over the light emitter, as taught by Lowery, in

order to achieve a uniform lighting effect, and to further modify the reflective cup of JP 62-235787 with a silver coating to provide a highly-reflective layer, as taught by Merg.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

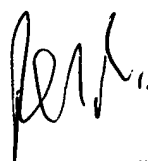
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (571) 272-2455. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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